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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,319	12/16/2005	Satoshi Takahashi	P28448	8216
7055	7590	03/22/2010	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			BARAN, MARY C	
ART UNIT	PAPER NUMBER			
		2857		
NOTIFICATION DATE	DELIVERY MODE			
03/22/2010	ELECTRONIC			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[gpatent@gpatent.com](mailto:gpatent@gpatent.com)  
[pto@gpatent.com](mailto:pto@gpatent.com)

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,319	<b>Applicant(s)</b> TAKAHASHI, SATOSHI
	<b>Examiner</b> MARY C. BARAN	<b>Art Unit</b> 2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 04 January 2010.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-8,10,12-19,21,23 and 24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1-7 and 13-19 is/are allowed.

6) Claim(s) 8,10,12,21,23 and 24 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 16 September 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsman's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 1/4/10

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The action is responsive to the Amendment filed on 4 January 2010. Claims 1-8, 10, 12-19, 21, 23 and 24 are pending. Claims 8 and 10 are amended. Claims 9, 11, 20 and 22 are cancelled. Claim 24 is new.

### ***Drawings***

2. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8, 10, 12, 21, 23 and 24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 8 and 24 are rejected under 35 U.S.C. 101 because the claimed invention

is neither tied to a machine or apparatus, nor does it perform a transformation. As currently presented, the wave detection method steps in claims 8 and 24 need not be performed by a specific machine.

Based on recent Court decisions, it has been held that a § 101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example, by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example, by identifying the material that is being changed to a different state.

As such, claims 8 and 24 only recite wave detection methods that include generating, outputting and obtaining steps that could be purely mental and the claim does not in any way tie the process to another statutory class nor does the claim transform an article to a different state or thing. Such claims are therefore non-statutory under 35 U.S.C. 101.

4. Claims 10, 12, 21 and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, more specifically, non-transitory tangible media.

Claims 10, 12, 21 and 23 present computer readable mediums having a program of instructions for execution by a computer to perform wave detection processes. The

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broadest reasonable interpretation of a claim drawn to a computer readable medium typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. See MPEP 2111.01.

As currently claimed, the language "computer readable medium" does not specify if the computer readable medium is "transitory" or "non-transitory" and therefore claims 10, 12, 21 and 23 are considered to be non-statutory under 35 U.S.C. 101 (See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101*, Aug. 24, 2009; p. 2).

***Allowable Subject Matter***

5. Claims 1-7 and 13-193 are allowed.
  
6. The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-7 are allowable over the prior art of record because the combination of limitations which recite a wave detection device comprising: a first signal output means that outputs a first signal obtained by adding the digital input signal to a predetermined signal; a second signal means that outputs a second signal; and a frequency domain transform means that obtains the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain

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data which is the input signal transformed into the frequency domain, wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient is not found, taught or suggested by the prior art of record.

Claims 13-19 are allowable over the prior art of record because the combination of limitations which recite a wave detection device comprising: an adder that outputs a first signal obtained by adding the digital input signal to a predetermined signal; a delayer that outputs a second signal; and a frequency domain transformer that obtains the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain, wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient is not found, taught or suggested by the prior art of record.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 8, 10, 12, 21 and 23 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARY C. BARAN whose telephone number is (571)272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mary Catherine Baran/  
9 March 2010

/Mohamed Charioui/  
Examiner, Art Unit 2857